

Application No. 10/524,358
Amendment dated November 3, 2008
Reply to Office Action dated May 14, 2008

Attorney Docket No. 05-189

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-36. (cancelled)

37. (currently amended) A process for producing a material for restoring a mineralized substance in the dental field, said process comprising the steps of:

providing an aqueous liquid part;

providing a solid part including calcium carbonate and at least one silicate selected from tricalcium silicate and dicalcium silicate;

providing calcium chloride and a water-reducing agent, both contained in at least one of the aqueous liquid and solid parts; and

obtaining ~~a tooth-restoration material by mixing~~ a uniform mixture of the solid part and the liquid part; and

restoring said mineralized substance by using said uniform mixture as an apical sealing cement, by retrograde surgical route or canal route, or as a dentino-cemental substitute in the case of iatrogenic or pathological canal or pulpal floor perforations, or as a cavity-lining material with or without pulpal exposure, or a jawbone filling material, by placing said uniform mixture on a tooth part to be restored and allowing the mixture placed on the tooth part to set.

38. (currently amended) A process according to claim 37, wherein ~~said tooth-restoration material obtaining step comprises mixing~~

the solid part and the liquid part using are mixed using means for transmitting a high energy to said mixture in order to obtain a uniform paste.

39. (cancelled)

40. (currently amended) A process according to claim 37, ~~further comprising using~~ wherein the tooth-restoration material is used with an amalgam carrier.

41. (currently amended) A process according to claim 37, ~~further comprising using~~ wherein the ~~tooth-restoration material~~ mixture is used for the restoration of posterior teeth.

42. (currently amended) A process according to claim 37, wherein the ~~tooth-restoration material obtaining step comprises obtaining a tooth-restoration material having~~ wherein the mixture has a setting time which is compatible with a handling time by a ~~dental~~ practitioner in the dental field.

43. (currently amended) A process according to claim 37, wherein the solid part ~~providing step comprises providing a solid part containing~~ contains between 70% and 99% by weight of at least one of dicalcium and tricalcium silicate, and between 1 and 30% by weight of calcium carbonate, said weight percents being given on the basis of all of the constituents of the solid part.

44. (currently amended) A process according to claim 37, wherein the solid part ~~providing step comprises providing a solid part which~~ further includes zirconium oxide in an amount between 0 and 15% by weight of all of the constituents of the solid part.

45. (currently amended) A process according to claim 37, wherein the liquid part ~~providing step comprises providing a liquid part containing~~ contains calcium chloride dihydrate ($\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$) with a content between 1 and 35% by weight with respect to a total volume of the liquid part.

46. (currently amended) A process according to claim 45, wherein said liquid part ~~providing step comprises providing a liquid part wherein said~~ calcium chloride dihydrate ($\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$) is present in a content between 9 and 25% by weight with respect to the total volume of the liquid part.

47. (currently amended) A process according to claim 37, wherein the solid part ~~providing step comprises providing a solid part containing~~ contains calcium chloride dihydrate ($\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$) with a content between 0.1 and 10% by weight of all of constituents of the solid part.

48. (currently amended) A process according to claim 47, wherein said solid part ~~providing step comprises providing said solid part with~~ calcium chloride dihydrate ($\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$) present in an amount between 0.9 and 7.5%.

49. (currently amended) A process according to claim 37, wherein the liquid part ~~providing step comprises providing a liquid part containing~~ contains a water-reducing agent in a proportion between 0.1 and 10% by weight of a total volume of the liquid part.

50. (currently amended) A process according to claim 49, wherein

said ~~liquid part providing step comprises providing~~ said water-reducing agent is present in an amount from 1.0 to 5.0% by weight of the total volume of the liquid part.

51. (currently amended) A process according to claim 49, wherein said ~~liquid part providing step comprises providing~~ said water-reducing agent is present in an amount from 2.0 to 4.0% by weight of the total volume of the liquid part.

52. (currently amended) A process according to claim 37, wherein the solid part ~~providing step comprises providing a solid part including~~ includes a water-reducing agent in a proportion between 0.01 and 3% by weight of all of constituents of the solid part.

53. (currently amended) A process according to claim 52, wherein said ~~solid part providing step comprises providing~~ said water-reducing agent is present in an amount from 0.15 to 1.25% by weight of all the constituents of the solid part.

54. (currently amended) A process according to claim 52, wherein said ~~solid part providing step comprises providing~~ said water-reducing agent is present in an amount from 0.38 to 0.84% by weight of all the constituents of the solid part.

55. (currently amended) A process according to claim 49, wherein the water reducing agent ~~providing step comprises providing~~ is a plasticizer.

56. (currently amended) A process according to claim 55, wherein the water-reducing agent ~~providing step comprises providing a~~

~~plasticizer~~ is selected from the group consisting of polynaphthalene sulfonate and a modified polycarboxylate-based plasticizer.

57. (currently amended) A process according to claim 52, wherein the water-reducing agent ~~providing step comprises providing~~ is a plasticizer.

58. (currently amended) A process according to claim 57, wherein the water-reducing agent ~~providing step comprises providing a~~ ~~plasticizer~~ is selected from the group consisting of polynaphthalene sulfonate and a modified polycarboxylate-based plasticizer.

59. (currently amended) A process according to claim 37, ~~further comprising providing the liquid part and the solid part in a~~ wherein the liquid part/solid part mass ratio is between 0.1 and 0.3.

60. (currently amended) A process according to claim 59, wherein the ~~liquid part and solid part providing step comprises providing the liquid part and the solid part in a~~ liquid part/solid part mass ratio is between 0.15 and 0.25.

61. (currently amended) A process according to claim 59, wherein the ~~liquid part and solid part providing steps comprises providing a~~ liquid part/solid part mass ratio is between 0.17 and 0.23.

62. (currently amended) A process according to claim 37, wherein ~~said solid part providing step comprises providing~~ at least 90%

of the particles of each of the constituents of the solid part has a particle size of less than 10 μm .

63. (cancelled)

64. (currently amended) A process according to claim 37, wherein the solid part ~~providing step comprises providing a solid part~~ ~~which~~ further includes a radio-opacity increasing agent in order to improve radiographic control for restoration of the mineralized substance.